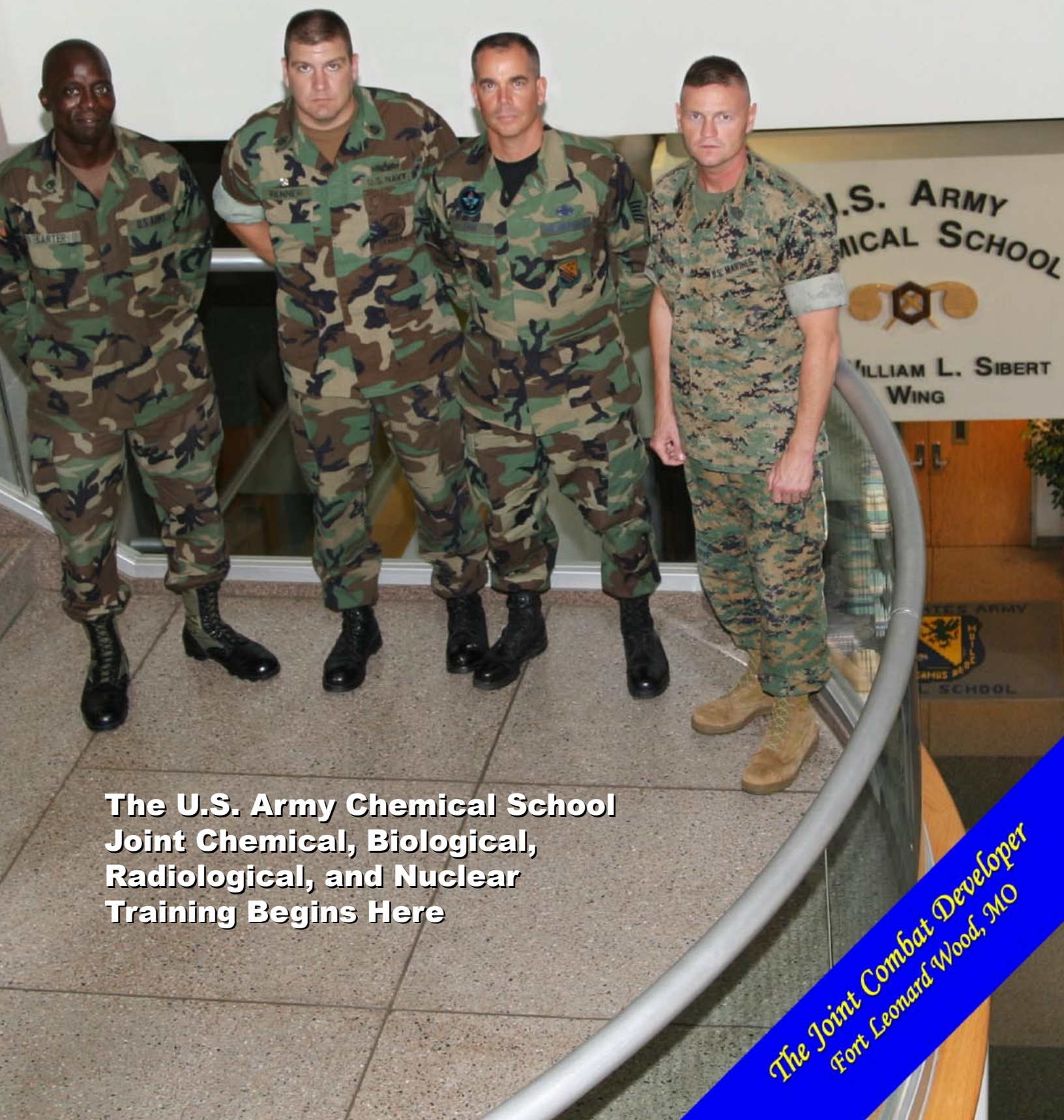


# CHEM-BIO DEFENSE

Quarterly



Vol. 1 No. 4



**The U.S. Army Chemical School  
Joint Chemical, Biological,  
Radiological, and Nuclear  
Training Begins Here**

**The Joint Combat Developer  
Fort Leonard Wood, MO**





From left to right SSG Joel Carter, U.S. Army; DCC(SW) Jeffrey Renner, U.S. Navy; MSGT Don Pigg, U.S. Air Force; & MSGT Jeff Mulsce, USMC. Assigned to the U.S. Army Chemical School in Fort Leonard Wood, these instructors assist in turning civilians into Chemical Soldiers, Sailor, Airmen and Marines. Photo by Steven Lusher.



Several courses offered at Fort Leonard Wood provide training to military, Department of Defense civilians, and First Responders responsible for installation Chemical Biological Radiological and Nuclear (CBRN) defense. The Weapons of Mass Destruction (WMD) installation emergency responder, and WMD emergency planner courses provide CBRN technical skills to first responders, incident commanders, staff planners, civil support, and regional response team members.



Col. Don Burnett  
USA



Col. Camille Nichols  
USA



Mr. Doug Bryce  
USMC



Capt. Tom O'Keefe  
USN



Col. Stephen Berté  
USA



Col. Albert Burnett  
USAF



Mr. Stan Enatsky  
USN

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Photo by Steven Lusher

## From the Joint Program Executive Officer



**Brigadier General Stephen V. Reeves**  
Joint Program Executive Officer  
for Chemical and Biological Defense

thousands of new Army recruits receive their basic training. We spoke with several young Soldiers who recently completed their basic training and are currently completing the Chemical One Station Unit Training, which is a 19-week course that combines basic and advanced individual training, and effectively transforms civilians into chemical Soldiers.

We also spend one day in the life of a Soldier attending the Advanced Non-Commissioned Officers Academy. This photo story gives you an up close and personal view of what life is like when a chemical Soldier's day is dissected and presented in small parts. From physical training at 0430 to live agent training at 1430 at the Chemical Defense Training Facility, we provide a representative look at how this Soldier handles the pressures associated with advanced chemical training.

We also interview Dr. Klaus O. Schafer, MD, MPH, Deputy Assistant to the Secretary of Defense for Chemical and Biological Defense. He shares his vision for the direction of the Chemical Biological Defense Program. During our conversation, he candidly expresses his excitement about the role the advanced sciences will have on the development of future technologies and the role private industry has in delivering warfighting capabilities.

Conversely, the 21st Annual Worldwide Chemical Conference & Exhibition (October 12 - 15, 2004) will surely hold a great number of opportunities for both government and industry attending and I anticipate a number of outcomes from our gathering. First and foremost, I expect that new relationships will be developed that will eventually lead to new concepts and potential materiel solutions being brought to market. Secondly, I'd like these newly formed relationships nurtured over the year preceding the next conference. It is our desire to engage the very best and brightest minds in the scientific, engineering and technology fields. The innovative ideas and fresh perspective of those in industry and those of the Joint Services is what continues to give us the edge in providing the best equipment to the warfighters. We want to continue that trend.

We have also reached a milestone with our magazine. Published quarterly, this is the final issue for this year. I encourage our current readership to continue spreading the word that the Joint Program Executive Office for Chemical and Biological Defense distributes information through its magazine. Subscription information can be found on our website at, [www.jpeocbd.osd.mil](http://www.jpeocbd.osd.mil) and at every conference we attend.

Our intent is to present this information in a fashion that is easily understandable yet informative and entertaining. From reading the current, past and future issues of Chem-Bio Defense Quarterly, I expect you will learn who the people are developing and designing our products; discover the lifecycle evolution of those products from inception to disposal, and learn the processes involved with bringing the best technology and equipment to the warfighter and our installations throughout the world.

Brigadier General Stephen V. Reeves  
Joint Program Executive Officer  
for Chemical and Biological Defense

In this issue we focus on the U.S. Army Chemical School and its role in providing the world's best chemical and biological defense training and equipment to the world's best Armed Forces as part of the mission of Department of Defense's (DoD) Chemical and Biological Defense Program. Established by law, the U.S. Army Chemical School is the Joint Services Training Facility and also serves as the Joint Services Combat Developer. Instructors from all services provide instruction to the four branches of the U.S. Military and allies from more than 80 countries.

Since 1928 when the War Department established the Chemical Warfare Service, the Chemical School has led the nation in Force Protection and in Chemical Biological Radiological Nuclear Defense. Today, the U.S. Army Maneuver Support Center and Fort Leonard Wood are home to the U.S. Army Chemical School, the U.S. Army Engineering School and the U.S. Army Military Police School.

Specifically, we visit the 3rd Training Brigade, where

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# Collective Protection

## Invisible Protection: Chemical, Biological and Radiological (CBR) Defense Collective Protection



By Stan Enatsky, Joint Project Manager Collective Protection

In the face of the threat posed by chemical and biological agents and lethal toxic industrial chemicals, an unseen barrier provides protection for personnel and equipment contained within the protective boundaries. This barrier is known as CBR Defense Collective Protection (ColPro). It provides an environment that allows occupants to accomplish their mission unencumbered by individual protective equipment. The equipment within these boundaries remains operational during a contamination event and does not require decontamination afterwards. ColPro keeps people alive, equipment operational, and saves time and money by eliminating the intricate and expensive process of decontaminating sensitive electronics and other capital investments.

ColPro is not a new idea and is based on a simple concept; establish and maintain a toxic free area by supplying conditioned and ventilated air at a pressure above atmospheric pressure to keep particulates, liquids, and/or vapors from infiltrating. While simple in concept, challenges in delivering this type of pro-

tection are many -- from ensuring that the air is breathable, overpressure is adequate to overcome leakage, seamless integration of the collective protection system onto the platform, and that its physical attributes are compatible. The Joint Project Manager (JPM) for Collective Protection (CP) was created with the advent of the Joint Program Executive Office for Chemical, Biological Defense and has established a strong technical team to take on these and many other challenges.

An overarching issue for the ColPro commodity has been the lack of investment in basic and advanced research to enhance new technologies and transitioning them into new and legacy ColPro systems. To address this, the JPM-CP team is working with the Joint Science and Technology Office within the Defense Threat Reduction Agency to conduct a Technology Readiness Assessment (TRA) in FY05. This will be the first TRA conducted outside the biological defense area. The goal of the TRA is to identify mature technologies that can transition into a new program called Joint Expeditionary Col-

lective Protection and into major defense acquisition program platforms such as the Expeditionary Fighting Vehicle and the Future Combat Vehicle. The TRA could also benefit the Department of Defense facilities scheduled to receive ColPro systems through JPM Guardian's Installation Protection Program. The Patriot Missile Defense System also stands to benefit from the TRA, as the JPM-CP team is updating their obsolete ColPro system.


Given today's increasing threat from terrorist or rogue states, it is not without merit that the aforementioned platforms and others, like the U.S. Navy's Littoral Combat Ship and the U.S. Coast Guard's newest cutter, require the invisible protection provided by a CBR Defense ColPro System. A seamless system that protects lives, avoids decontamination, and allows the mission to continue in unthinkable environments, Collective Protection is a simple principle and when done correctly provides great rewards. 



Photo by Steven Lusher

## A Visionary's View: An Interview with Dr. Klaus O. Schafer, MD, MPH

Interview by Julius L. Evans

*Brig. Gen. (Ret) Klaus O. Schafer, MD, MPH, is the Deputy Assistant to the Secretary of Defense for Chemical and Biological Defense. He serves as the single focal point within the Office of the Secretary of Defense (OSD) for oversight, coordination, and integration of the chemical biological defense, and counterproliferation support. He is a member of the OSD Steering Committee for Chemical-Biological Defense, and represents the Department of Defense (DoD) on numerous interagency, intragency, and international groups addressing chemical and biological issues. Additionally, he is an associate professor at Johns Hopkins University, Bloomberg School of Public Health. Dr. Schafer is a graduate of the U.S. Air Force Academy. He received his medical degree under full Air Force sponsorship from the University of Iowa Medical School in May 1977. Dr. Schafer has been responsible for the development and deployment of technologies for disease surveillance, electronic medical records, and field-ready DNA fingerprinting technologies that were used effectively in tracking anthrax environmental samples during the post office anthrax attacks.*

**With the joint effort that has taken place thus far and going forward, how do you see the correlation between the services working together and are we getting to where we need to be?**

I think it's very good that we have shifted from a primarily Army focused chem bio defense program to one that is truly joint. Some of the projects were labeled as joint, but they really weren't. This shift will allow us to share more information and capabilities from the other services. For instance, in the field of microarray technology, the Navy clearly has done some wonderful things. I believe they should have a bigger role to help us accomplish things. The Air Force, in particular, has had a number of concerns that their needs were going unmet.

**Has that been happening or is that something we collectively must manage a little better?**

No, we must continue to work on it, but with the establishment of the Joint Science and Technology Office (JSTO), within the Defense Threat Reduction Agency (DTRA), we have started moving in that direction. The JSTO is moving effectively towards the private sector and balancing their science portfolio among the service laboratories. They really are focused on going to the best performers. Now, more often than not, the best performer happens to be the Army, so that preserves the intellectual property base in the services and that's a good thing. This past year, our medical acquisition program came under a lot of criticism in a report called the Institute of Medicine Report. They recommended the establishment of a separate agency to oversee the development of medical countermeasures. We implemented just about everything recommended, streamlining the entire process of medical product development. We just didn't establish another agency. One of the areas of concern to me is that we often tend to keep going to



the same performers. The biotech industry and knowledge area is literally exploding and much of the intellectual property and bright ideas reside in very small companies that have different requirements than large defense contractors. We'd really like to have a larger portfolio of industry partners, including many of the biotech companies that today are just not players with DoD.

### **How do we get to that point?**

We have to market better and smarter and really get in front of industry. Recently, Brig. Gen. Stephen Reeves, Joint Program Executive Officer for Chemical and Biological Defense, Dr. Charles Gallaway, Joint Science and Technology Office and I attended the Bio 2004 breakfast where we were able to address industry. I thought it was a good opportunity. Still many of the companies there are afraid of doing business with DoD, or find it too difficult, or there are other issues of concern, like liability that prevent them from coming to us or working with us. Since that meeting and others, I have received numerous papers and really great ideas that someday will pop out at the other end of the acquisition cycle.

### **Industry has played a part in us getting to where we are today with some of the technologies, some of the medical advancements, and some of the equipment. But you would like industry to play a bigger role. Has industry responded to what you've asked so far?**

Again, I think some in industry have responded. I've had a number of industry folks show me what they are capable of doing. Some, we've worked with before and they already understand the process. But there are many new players that don't even consider the opportunities for them to market their ideas and items. What's really interesting about the whole area of chemical and biological defense is that we are dealing with complicated advanced scientific areas - for instance, nanotechnologies, microfluidics, microelectronic devices, and photonics among others. Several scientific disciplines converge nicely in the chemical biological arena. It takes a sophisticated team that understands the science and can ask the right questions of industry so they can produce what we need. Many of the technologies are brand new and haven't been

proven. We need to bring those together so the scientists and engineers can work on them and then extend what they discover to the acquisition team. I think some of the most exciting areas are in the nanotech areas - in fact, I had a meeting with Dr. Thomas Killion, (Deputy Assistant Secretary of the Army for Research and Technology), and I came away impressed with the work the Army is doing in collaboration with industry and academia to develop nanofiber uniforms. They are interested in the ability to provide chem bio protection to the Soldier as well with the fibers. It is exciting in that perhaps some day we will be able to get rid of the heavy and hot chem bio overgarments and rubber gloves. That potential is certainly there.

### **You come to us with a medical background. It's impressive that you have walked in and essentially assumed command with very little disruption to the program. What prepared you to step in so aptly?**

Well first, it's not a command. But the CBD office requires one to have a broad perspective on everything in the field of chemical and biological defense. I've always had one foot in the sciences camp and have maintained an interest in this field so I feel reasonably knowledgeable in this area. This dates back to my former Air Force days. I was in charge of medical readiness, and so spent a lot of time thinking about both chemical and biological threats. I believe for military medics these areas, along with radiation protection and therapies, are one of the primary mission areas where DoD needs military medics. I also had a tremendous amount of interest in the whole infectious disease area, particularly in looking for a more rapid and easier diagnostic tests. I remain interested in the miniaturization of a these devices and getting them out of central labs and into every Soldiers toolkit. The day will come when we'll all have the ability to check for chem bio agents with a kit like a home pregnancy test. For an expeditionary military with the constant threat of rapid deployment, it is crucial that everything we make be small and lightweight.

Finally, I think I have a pretty solid foundation in information technologies, particularly in electronic medical records, databases, and telemedicine, all important for the command and control aspects of consequence management.

Half of the entire S&T portfolio in the chem bio program is medical so having a medical person in charge makes sense these days. We have a greater fear of biological attack than ever before and one has to understand the field of biology and medicine. The sheer growth of the scientific vocabulary required to be conversant within the bio world is daunting. With the potential threat of genetically engineered bioagents, having a medical degree helps me steer us in a structured science approach to research, looking for gaps in knowledge and allowing us to concentrate on the areas of greatest need. I think my background prepared me for this, even though I have never been a bench level scientist. I am probably a unique individual in that regard but I happen to love what I'm doing so this is a perfect fit as far as I am concerned. I'm pretty happy here.

### **All the services have previously had chemical biological defense programs. Now they are under one umbrella. What challenges do you see going forward and how do we manage the joint CBDP organization more so than each service having its own program?**

Well, that's a big problem. Let me give you a very specific example. Right now we just went through a process to start looking at the budget -- the Program Objective Memorandum. The services would like near term solutions, "boots and suits," but the threats are such that this may not be the best use of our money. I think we need more money in research and to get there we need to rebuild a 30-year-old infrastructure. This is a tough problem and requires leadership to determine where the greatest risk really is. My vote is to move more to the science side of the equation. Purchases of equipment can always be moved up and increased to fill a significant need. Still the services need masks. The key here is the industrial base capacity. Industry can do it with enough notice. We will have disagreements with the services, the Joint Staff and the scientific community. Remember I said this is a tough area-the science is difficult, the decisions are hard and the entire scenarios involving chem bio tend to be more speculative. Congress clearly gave this office the ability to manage the program from end-to-end. It's one of the few really functional programs that cut across service lines, program lines and doctrinal lines. At this point, the program hasn't

taken a hard look at doctrinal issues, but we're going to start doing that. So that's one of the new areas we will probably get into and I realize that doctrine is a service issue. We do need some standardization across the services. Many of the standards have to be based on technology or tech limits so it is important to have similarities across the services. So we need to standardize some of these processes and apply a checklist mentality to how we respond to results in the field. As an example, if we get a positive result from an environmental sensor, how does one know if this is a false positive or not? What is the second order test to verify the results? Who is the certifying authority on the results? Are the devices interconnected and can the equipment results be reanalyzed by an expert in the CONUS, without having to send him to the theater or the sample to the CONUS lab? If an

environmental test is positive, are the medical folks cued to be alert for patients reporting in with symptoms or diseases that could support a potential attack? A lot of these questions can't be answered today. We do have a couple of programs that are just starting to get to this level of detail including BioNet, Joint Service Installation Protection Project and Guardian. We need to get the knowledge to the people in the field. They're the ones who will be exposed first, not guys sitting in offices in the scientific community.

**You were quoted in an article discussing the Air Force Medical Identification System that would give doctors nationwide access to a computer system that could pinpoint if that same symptom was documented in another hospital....**

Well, we're not there yet. And actually when you look at it, the Centers for Disease Control (CDC) has been working what they call medical surveillance. And they have \$137 million dollars in their budget to try to work that area. Now the DoD and DoD Health Affairs have worked some of those same issues. I would venture to say that we started this effort years ago. DoD has started this process, but it's going to be a while before we are actually where we want to be or need to be.

**Is that different from the LEADERS (Lightweight Epidemiology Advanced**

**Detection and Emergency Response System) Program?**

LEADERS actually started as a Defense Advanced Research Projects Agency (DARPA) development in consequence management. When I was at Air Combat Command I asked them to assist me and we folded some of the medical components into the program. I can tell you it was ahead of its time. People confused it with surveillance, of which it had a component, but it was always intended to be a program that allowed decision makers to get to the right decision quickly. It was one of the first programs that brought together the entire first responder community, the CDC and AF. A portion of the program was deployed in New York to pro-

**I guess I didn't tell you that my brother-in-law is a commander in Iraq. I have a vested interest in making sure that our program serves him and his troops well...**

vide syndromic surveillance for the entire state. The problem was the way the program was implemented-it required to much "fat fingering" of data and didn't interface with hospital and EMS systems. But it did bring up 250 hospitals and all were reporting syndromic data to the CDC within 24 hours. Pretty awesome capability back then, which in many places still doesn't exist. The need is still there and CDC is spending millions and DoD still doesn't really have a system in place although they are getting there.

**Well isn't it similar to the Joint Biological Agent Identification Diagnostic System (JBAIDS) program?**

Well, JBAIDS is a program that I started with a group of people at Air Combat Command. JBAIDS was originally designed around RAPIDS, a device made by a small Idaho company, involving DNA fingerprinting of pathogens. My team actually initiated the Operational Requirements Document (ORD), made it a Joint ORD, which eventually became JBAIDS. This was a technology push. There wasn't anybody on the battlefield thinking about doing this back in the late 90's. I think sometime during this past year, the JPEO announced its first purchase and it happened to be those devices so the company selling must have done very well. Today, it is the first DNA fingerprinting technology for identifying infectious diseases the services have

in use. So that's pretty good. The technology has moved quite a ways down the road. Now we're talking about microarrays to test in the 10s to the hundreds of pathogens on a single pass. This technology has been given the common name of the zebra chip (we can talk later as to why it is called that!). It is still in the science base so its not deployed anywhere yet, but that's coming. We're taking disease detection and identification to the next level. Expect an effort over the next year in a prototypical version.

**What is your vision going forward for the chemical biological defense program?**

We have to go after some of the new sciences. We have been studying chemical warfare agents for a long time now and have made little progress in this area. Still there

are some areas of concern and we are trying to increase our research budget to focus on these areas. This is one of my goals to move our understanding and find countermeasures in the advanced chemical agent area.

But we absolutely have to increase our efforts in the biology side of things. Biotechnology is literally exploding, the technology is totally dual use, and what is industrialized today can be weaponized tomorrow. Breakthroughs in science occur daily. There have been a couple of areas of research that have raised eyebrows and the President has established a bio surety effort. The experts in these fields reside in universities, small biotech and big pharmaceutical companies. This is my first priority. We've only put small amounts of money in some of these areas and actually some of these areas are very exciting and promising. There are opportunities for us to approach vaccines in different ways, and potentially use the innate human immune system itself to protect individuals. More money is needed in the far reaching science areas. We are working closely with the other agencies like Department of Health and Human Services to insure that we don't duplicate efforts.

We recently added money to rebuild the biologics development plant at Walter Reed Army Institute of Research. The FDA requires GMP (good manufacturing process) for use of any biological materials used in humans. This has become impor-





tant even in the early efforts to test animals and all the data has to be preserved properly for the FDA. We haven't done very well in some of our scientific endeavors in managing the paperwork. This has led to delays in getting products out the door. That is changing, all with my goal of getting countermeasures out of the labs. I am trying to establish closer relationships with DARPA to help transition products. Again there are exciting opportunities.

Two other big areas that need some work are stand-off detection, which turns out to be a very difficult scientific problem, and decontamination capabilities. Stand-off detection research to date gives us very limited capability for the amounts of money we have spent to solve the problem. Thank goodness Brig. Gen. Reeves has decided to take an end-to-end look at the problem, which includes some CONOPS approaches across a broad spectrum of technologies. The point being, to date we have focused only on spectral solutions, yet there might be other approaches using a combination of technologies that would solve the problem. On the decon side, the problem is that requirements say a single solution has to decontaminate everything from chemicals to biologics. Hot soapy water and bleach are still pretty good and cheap decontaminates. Nevertheless, we have to get real on expectations. There are probably a couple of reasonably good decontaminates that will partially solve the problem for some of the service needs without being excessively corrosive.

**We have made progress since the initiation of the Implementation Plan, but there are still great number of challenges that are yet to be met. What's top on your list?**

Getting everyone to work together effectively is what's on top of my list. And I think we are doing so much better than we were a year ago. I worked in an advisory capacity with DTRA and I saw a

fair number of problems as these changes were being implemented. And I know that everyone who has had a piece in the game has also had some problems. So the problems are maintaining a large infrastructure. Those are big issues for Military Medical Research Command, the medical folks and they're large issues for the folks at the Edgewood Chemical Biological Command. They have really great people working in all areas and they have skill sets that we don't want to lose. Take filtration for instance. Let's say that we put a filter into the acquisition system, does that mean one abandons that whole research area, or does one keep it alive and warm to make sure that as new developments come along, we can improve it? So there are issues for the laboratories and I see those as a big problem. The other big area is getting industry to come back to us with their good ideas. It's there but we seem to get the same players all the time. I'm looking for the new guys. And I'm really interested in the little companies. So we want to reach out to the small companies and give them the opportunity to work with us.

**Considering our acquisition process there could be small companies out there right now clamoring to get to the JPEO...**

...exactly! This office has an open door policy. At the last industry breakfast I attended, I announced this is an office that we'd like to see the stuff that's coming and be able to put it into the various areas. Now a lot of the technologies that companies are bringing they think they are the first on the block to produce it. But more often than not, there have been 10 people for whom we have already tested that through the scientific community and it just doesn't work. So we need a vetting process for those that think they have a great idea. Again, General Reeves is working on this. One final piece for industry that I think is important is for us to have a closer working

relationship with Congress. Not to lobby of course, but to provide a scientific framework for the staffers when they are confronted by a constituent with a scientific proposal. They want to help and often through congressional action have a direct impact on our program. We want to be helpful and want to review proposals and to let the staffers know if the proposal works to enhance our scientific efforts. Sometimes it does, sometimes it doesn't. My office is open for those discussions. There are never guarantees, as all proposals get competed or peer reviewed.

**When we think of the jointness that has been borne from the Implementation Plan, how are we doing in your view?**

I think we're doing pretty well. The Joint Requirements Office (JRO) has stood up and they're aggressive about their role. The JRO does work prioritization based on service needs. That's what they ought to be doing. JSTO is a year into working the science and technology portfolio and they are doing OK-still working a lot of bugs out though. Contracting in my view is a little slow, but they're trying.

It's been nice to say a few words to you Julius. I'm proud to be able to work as Dr. Dale Klein's deputy to oversee the Chem Bio Defense Program. It has an excellent history of delivering products to the warfighter and I am very happy to be here. I do hope I will be able to deliver some of the things that I mentioned in the interview. I'm proud to be supporting our warfighters and the DoD. I guess I didn't tell you that my brother in law is a commander in Iraq. I have a vested interest in making sure that our program serves him and his troops well and all the deployed troops around the world. I also want our tools to protect his wife and family here in the CONUS at the bases and posts they work in day-in and day-out. Thanks again. 🌐



# Chemical One Unit Training

By Julius L. Evans    Photographs by Steven Lusher

This morning started with a bang. It was about 0430 on Saturday and everyone was asleep. The 1st Sgt. appeared and commanded that we get out of bed, which consisted of four poles and a piece of canvas. People weren't moving very fast so he hit us with a smoke bomb. Everyone scrambled to get his or her mask on and because we had just awakened, there seemed to be quite a bit of confusion. Someone gave the 'all clear' so we groggily took our masks off. That's when we got hit with the CS gas and had to quickly redon our mask. That pretty much got everyone up and at 'em.

Pvt. Hadassah Dube, a 20-year-old Army Reservist from Wallingford, CT, plans to change her status from reservist to regular active Army as soon as she completes her 19-week Chemical One Station Unit Training (OSUT) course at Fort Leonard Wood, MO. OSUT combines Basic Training and the Advanced Individual Training (AIT) and serves the purpose of transforming civilians into chemical Soldiers. New recruits learn the basics of Soldiering such as rifle marksmanship and drill ceremony during the nine-week basic training portion. At week 10, Soldiers enter the AIT phase to begin learning the technical skills required of all chemical Soldiers.

"We go through realistic training evolutions in full Mission Orientated Protective Posture gear so we practice what's going on in real world situations," Dube said. "For the past four days, we've been out here, living on the land and training in reconnaissance and decontamination missions. We have even learned how to detect improvised explosive devices."

That training happens to suit Dube just fine who says, while in high school, she has always had a great interest in war, but her counterpart in training joined the Army for different reasons.

"Most of the men in my family or at least a large number of them, have served in the military. I followed one of my uncles into the Army," said Pvt. Krystall Harrison, a 19-year-old Portsmouth, VA native, serving in the active duty regular Army. "I have always had an interest in the sciences so I joined the Chemical Corps. Thus far, the training has met all my expectations. Some battalions save lives with their M-16s. We save lives with the training we will provide as chemical Soldiers once we are at our units."

Harrison also said she felt she would be better prepared than any other private going to their first duty station because of the guidance she received in the field. "Our drill sergeants from 1st Platoon are exceptional leaders."

While in the field, students are assigned a number of training scenarios that challenge their ability to decipher common traits consistent with hazardous situations. "Our platoon was assigned to the motor pool the entire time so we have four people per hour out patrolling. In addition to protecting our vehicles, they have to maintain light, noise and litter discipline. If a drill sergeant catches you with a light on, you can bet you'll be hit with a gas bomb," Dube said.

When it's time to come out of the field, another great training opportunity to excel is created. "We do three to five second rushed just like in a real tactical environment. We have Soldiers covering us as we run through the trees

and all the way to the chow line," Harrison explained. "Once we make it to the safe area, then we can relax."

Throughout Chemical OUST, new Soldiers are taught survivability skills that may not only save their life, but also the lives of their brother-at-arms.

"I believe the Chemical Corps is just as prepared as the Infantry," Harrison said. "There wouldn't be one without the other. If they are hit with something, we will have provided the knowledge and equipment for them to decontaminate themselves."

Dube agreed with Harrison's assessment. "We are some of the safest Soldiers out





# Station



## Air Force Civil Engineer Readiness School

The Air Force Civil Engineer Readiness School is comprised of students from the active duty Air Force, the Reserves, the Air National Guard, Civilians and Foreign Officers. Throughout the 53 day course, students go through a rigorous seven block training syllabus that teaches them how to withstand and recover from an attack during wartime and natural disasters during peacetime. Responsibilities include writing and implementing the plans to react to attacks tornados, hurricanes, earthquakes, floods, and any other calamity that might strike. In the event of an actual attack or a natural disaster, students are taught to man and operate a mobile command post to keep the base functioning by relaying vital information on the condition of the base and its mission capability, as well as to detect, identify and mitigate the results of a potential CBRNE event.

there because we know better than anyone else how to react to those situations; how to take care of ourselves and we're better at donning our mask than anybody else. Even though everyone has to pass the nine-second standard at least once in order to complete basic training, they rarely do it again. We do it every single day, several times a day - and in most cases we are down to five seconds, so you know we're going to be the safest ones, and that way we can assist everyone else. That's our responsibility once we go to our unit and that's what they are teaching us here."

Students may be taken a little by surprise early in the morning when the 1st Sgt. tosses a smoke or a CS gas bomb at them, but with all the varied training and especially the donning skills taught at the Chemical OSUT course, they aren't surprised for very long.



Top: Pvt. Hadassah Dube, 20, Wallingford, CT, is a Reservist who intends to join the regular Army once she completes her training. Below: Pvt. Krystall Harrison, 19, Portsmouth, VA, thinks the training she is receiving from the Chemical OSUT Unit Course will adequately prepare her for real world situations.

Photographs by Steven Lusher





# Brig. Gen. Stanley Lillie On the Chemical Corps School

*Interview by Julius L. Evans*

vides Advanced Individual Training for transportation Military Occupation Specialist 88M (driver) Soldiers.

The CDTF is a live agent facility that allows Soldiers to train in a chemically contaminated environment to instill confidence in the Soldiers that they can accomplish their mission on a contaminated battlefield. The IRTD provides CBRN emergency responder training to both civilians and military.

gression planning of all chemical Soldiers and officers, and plan for new facilities to support training.

In the area of homeland security/homeland defense, the Chemical School works closely with our Reserve component headquarters to develop doctrine, organizations and training programs specifically for Weapons of Mass Destruction-Civil Support Teams (WMD-CST) and domestic reconnaissance and decontamination units.

Finally, we are the Joint Combat Developer (JCD) for the Joint Service Chemical and Biological Defense Program, having the responsibility to lead or assist in developing DOTML-PF products for the joint community. Overall, we are a major contributor to chemical, biological, radiological and nuclear related programs in the Department of Defense.

**Good afternoon General Lillie. If you don't mind, could you give an overview of the U.S. Army's Chemical School command?**

The U.S. Army Chemical School is located at Fort Leonard Wood, MO, and is the home of the U.S. Army Chemical Corps. The Chemical School is comprised of the 3rd Chemical Brigade, the Joint Combat Development Department, and Office of the Director of Training and Training Development.

The 3rd Chemical Brigade includes the 82nd and 84th Chemical Battalions, the 58th Transportation Battalion, the Chemical Defense Training Facility (CDTF), and the Incident Responder Training Department (IRTD). The 82nd Chemical Battalion provides Chemical One Station Unit Training for Soldiers just entering the Army. The 84th Chemical Battalion provides instruction for chemical lieutenants and captains and provides specialized training in radiation safety, biological detection and identification, CBRN reconnaissance, and smoke and obscurants.

The 58th Transportation Battalion pro-

**What are the primary contributions the Chemical School gives to the Army and the other services?**

The Chemical School is responsible for the principle domains of doctrine, organization, training, materiel, leader development, personnel and facilities (DOTML-PF) for the CBRN mission area. Therefore, the Chemical School develops all CBRN doctrine for the Army; recommends to Headquarters, Department of the Army, the proper organization of all Chemical Corps forces and CBRN advisors in other Army organizations, and develops concepts and requirements for future equipment-including tactics, techniques and procedures.

The Chemical School trains all initial entry chemical Soldiers, including One Station Unit Training and Officer Basic Training, develops leaders through basic and advanced NCO courses, and the Captain's Career Course; and teaches various functional courses in biological detection, radiation safety and NBC reconnaissance. We are also responsible for the career pro-

**Brig. Gen. Lillie, what traits would you use to describe the Chemical School's characterization as the Joint Combat Developer?**

The Implementation Plan for the Management of the Joint Chemical Biological Defense Program (CBDP) tasked the Army, working through the J-8 Joint Requirements Office (JRO) for CBRN, to serve as the Joint Combat Developer for the CBDP. The Army delegated this mission to the Chemical School. We see our role as similar to that of a Field Operating Agency for the JRO, to assist in development of doctrine, training, experimentation, studies and materiel requirements. We plan on beginning with joint and multi-service experiments to validate Joint Enabling Concepts for CBRN Defense. The JCD experimentation will be on a limited scale and will complement Joint Forces Command experimentation.

**When terms like the Joint Training Command are used to describe the Chemical School and its overarching mission, would you agree that is an**



**accurate description or would you describe it in different terms? If so, what terms would define your description?**

The four Services and the Coast Guard conduct CBRN training at Fort Leonard Wood. Some training is integrated (two or more Services train together), but most training is conducted by each Service for their own personnel. A good example of integrated training is the Chemical Defense Training Facility. All Services train together with each Service providing required instructors. In this case, an Army class may have Navy instructors or vice versa. We aren't integrating our other training as well as I believe we should. But, I have a goal to work with the other Services to make our training more integrated.

**What role in Chemical, Biological, Radiological, Nuclear, and Explosive experimentation does Fort Leonard Wood play in the development of today's warfighter?**

Specifically the U.S. Army Chemical School (USACMLS), through its role as the JCD for CBRN Defense, will conduct live, virtual, and constructive experiments designed to systematically explore new and innovative combinations of medical and non-medical CBRN DOTMLPF (doctrine, organization, training, materiel, leadership and education, personnel, and facilities) capabilities. The USACMLS experimentation is limited to CBRN only, and does not include explosive experimentation. The intent of the experimentation conducted by JCD is to provide feasible recommendations to eliminate current CBRN capability gaps for our joint warfighting community.

**I got a chance to see several decontamination training sites while visiting Fort Leonard Wood last month. The instructors were intense and the students were keen. By the time they reach the battlefield, what sort of equipment transformations will have occurred and how prepared will they be to make the adjustments?**

The decontamination commodity area is going through a major transformation as we replace our aging equipment with new systems. Our M12A1 Power Driven Decon Apparatus' are being upgraded with new engines, burners and electronics. We have fielded a Multi-Purpose Decontamination System (MPDS) to Central Command as an urgent need for Operation Iraqi Freedom (OIF), as well as to the Korean Peninsula to supplement our current lightweight decon system. We also recognized our shortfall to conduct large-scale decontamination of terrain/airfield/ports and fielded the Fixed Site Decon System that our Soldiers will also see if they are headed to OIF or Korea. We are working with the Joint Requirements Office and Joint Pro-



gram Office for Decontamination to field a new skin decontamination kit, a man portable system and large-scale decontamination systems, planned for fielding in the next few years. Incoming chemical Soldiers are being familiarized with the newly fielded equipment at the USACMLS and New Equipment Fielding Teams will train Soldiers when new Joint Decontamination Program equipment becomes available.

**The Secretary of Defense commissioned the Chemical Biological Defense Program Implementation Plan, essentially establishing the Joint Program Executive Office for Chemical and Biological Defense. Over the course of the past year, a number of organizations have been identified in support of that effort. Considering your role as the Joint Combat Developer, if you were creating a Who's Who list, which people and organizations would appear? In what capacity would they serve?**

A large number of DoD and Interagency offices and organizations are directly

involved with CBRN. Within DoD, starting at the top is the Under Secretary of Defense (Acquisition, Technology, and Logistics) which established the Implementation Plan for the Management of the Chemical Biological Defense Program (CBDP). Oversight of the CBDP is provided by the Assistant to the Secretary of Defense for Nuclear, Chemical and Biological Defense Programs and is assisted by the Deputy Assistant to the Secretary of Defense for Chemical and Biological Defense. They provide oversight to the CBDP and the our key organizations that carry out the CBDP: the Joint Requirements Office (JRO), the Science and Technology (S&T) Manager of the Defense Threat Reduction Agency (DTRA), the Joint Program Executive Office (JPEO), and the Test and Evaluation Executive. The JRO, working for the Director of J-8 on the Joint Staff, serves as the Single office within DoD responsible for the planning, coordination, and oversight of joint CBRN defense operational requirements. The JRO provides the JCD the prioritized list of joint CBRN warfighting experiments and provides the

resources required by the JCD to conduct the experiments. In this aspect the JCD serves as a field operating agency of JRO and the Joint Staff, eventually representing all five Services (Navy, Marines, Air Force, Coast Guard, and the Army). The JPEO serves as a potential recipient of the results of joint experimentation, especially when it is anticipated that some of the experiments may contain material recommendations, which could result in the establishment of new programs or the refinement of existing pre-Milestone B early development programs. DTRA S&T serves as a potential source of prototypes and concepts that will be used in JCD experimentation. Although the Test and Evaluation Executive plays a major role in the Joint CB acquisition program, interface with the JCD is expected to be primarily focused on helping the JCD identify the most appropriate independent testing agency to assist with the set up and data collection on the live experiments. Lastly, the Joint Staff's Force Protection Functional Capabilities Board along with its WMD Working Group will have a sig-

nificant impact on the JCD. They will approve the charter of the JCD, which is under development by the JRO, and they will approve the prioritization of experiments, the experimentation results and recommendations to improve CBRN defense for the joint warfighting community.

**What mix of your components are active versus Guard and Reserve? Do you see any adjustments to the current mix?**

Currently, about 36 percent of the Army chemical force structure is in the active component and 64 percent is in the reserve component (30 percent U.S. Army Reserve (USAR) and 34 percent U.S. Army National Guard (ARNG)). We will see some modest growth corps-wide over the next several years and we do project an increase in the Active component percentage up to 39 percent of the total force structure in FY07. This can be attributed to the Army's transformation and the activation of the 48th Chemical Brigade Headquarters at Fort Hood, in FY07, the activation of a second Technical Escort Battalion-the 110th Chemical Battalion, Technical Escort-in FY06 and the transformation of the Corps itself. Additionally, our force structure in the National Guard will increase to about 35 percent in FY07 as the National Guard Bureau continues to activate and fill its WMD-CSTs.

**Are there any core capabilities found only in the Guard and Reserve components?**

Weapons of Mass Destruction-Civil Support Teams are combined Army and Air Force National Guard units within the U.S. They are able to deploy rapidly, are specialized in supporting local and state authorities at domestic WMD/CBRNE

incident sites by identifying agents and substances, assessing current and projected consequences, advising on response measures, and assisting with requests for additional military support.

National Guard units called CBRNE Enhanced Response Force Package (NG CERFP), will have a mission and equipment set similar to that of the Marine Corps' Chemical-Biological Incident Response Force. The National Guard plans to strategically position 10 NG CERFP units throughout the United States, one in each Federal Emergency Management Agency region utilizing the Guard's command-and-control and operational integration with the civilian emergency response community.

Army Reserve recon/decon teams currently include 75 recon units and nine decon units to provide follow-on forces to large-scale domestic WMD incidents. These units will also have their regular mission to support deploying Army forces.

**Did operations in Iraq and Afghanistan highlight any technology areas that exceeded your expectations?**

Yes, specifically in the field of unmanned vehicles. Before OIF, we had conducted experiments utilizing various platforms and robotics equipped with chemical and radiological sensor packages. These vehicles allow the user to send the sensors into potentially contaminated and hazardous areas remotely, thus avoiding personal exposure and often decreasing mission time. Several sensor-equipped robots were sent into Iraq and performed very well. We were able to gain valuable experience with this technology during operations and are continuing research in this area.

**How would you characterize the balance in effort and resources for detection, protection and decontamination technologies?**

While efforts are being made across the CBRN spectrum, the major resource expenditure focus of our procurement dollars is in the field of detection. We have programs that will provide our joint forces vastly improved detection equipment to both avoid and

reconnoiter chemical, biological and radiological contamination. In this area, emphasis is being placed on unmanned and autonomous sensor packages, as well as standoff detection capabilities.

Protection also uses a large portion of our procurement and development dollars with emphasis on individual Soldier protective equipment such as improved masks, protective suits, and filter technologies.

Decontamination uses a smaller portion of the procurement budget. Decontamination equipment and solutions are being tested which will allow our forces to use safe, effective and environmentally friendly decontaminants to quickly eliminate hazards.

Finally, a portion of our budget goes into medical-based chemical and biological research in order to better prepare our Soldiers and medical personnel for the possibility of unconventional injury and warfare.

**How has the increased Operation Tempo (OPTEMPO) impacted the service life of your major equipment items?**

CBRN equipment and vehicles are being used at a very high operational rate in OIF. This has led to increased maintenance costs and the need for extra vigilance when Soldiers perform Preventive Maintenance Checks and Services (PMCS) on the equipment. An emphasis on proper PMCS is helping to maintain the equipment at the level required by the units in the field.

While the increased use of the CBRN equipment has had a major impact on the service life of many pieces of equipment, our major items are proving to be very reliable and rugged under adverse conditions. To maintain long term readiness the Army has begun a major reset program to repair or rebuild all major items returning from OIF. Our systems will go through this program as well.

**With the increased OPTEMPO and deployment of forces, how has personnel strengths and retention been impacted?**

The Chemical Corps is currently running above the Army average for initial and mid-career reenlistments and just below the Army average for career reenlistments. So, for the short term we appear to be OK. The Army is addressing the long-term impact by relooking at our personnel stationing and deployment policies. Bottom





line is our chemical Soldiers want to serve their Nation and are doing so admirably.

### **Does the Chemical School partner with civilian counterparts for first responder training and capability preparation?**

Until recently, DoD training focused on the battlefield. In 1996, DoD was designated the lead federal agency for providing CBRN training to first responders in our cities-the Domestic Preparedness Program. In October of 2000, DoD transferred the role of lead federal agency for first responder training to the Department of Justice. Since that time, the USACMLS has focused domestic response CBRN training on DoD units identified in the Defense Reform Initiative Directive #25 that provide military assistance or support to civil authorities. This assistance is provided only when requested by civilian agencies.

The school still works with other federal agencies such as the FBI and EPA for training joint senior leaders and we provide CBRN training for other federal agencies such as the U.S. Border Patrol. We also work with the University of Missouri and the University of Kansas to train Soldiers to the civilian response standards as certified by the International Fire Standards Accreditation Committee and the National Board on Fire Service Professional Qualifications.

### **What type of Soldier do you look for and are there any particular skill sets that are in high demand?**

My goal is to develop a branch of professional Soldiers-warriors, who are the unquestioned experts in the operational art and the technical aspects of CBRN defense. Because their actions, decisions and recommendations may have strategic impact, we must produce chemical Soldiers that are qualified to work in an operational environment dominated by science and technology.

To help meet this goal we are focusing our officer recruiting on those with science, math and engineering degrees. Having been grounded in the sciences at their universities, these officers will be better prepared to provide sound scientific recommendations to their commanders. Additionally, the officers we are looking for are physically fit, in the top half of their class academically, and have demon-

strated leadership skills. For our enlisted Soldiers the prime qualifier is an ST (Skill Technical) Score of 92 on the Armed Services Vocational Aptitude Battery (ASVAB). The ST score is an average of four ASVAB tests: general science; mathematics knowledge; word knowledge and paragraph comprehension; and electronics information.

### **The National Guard Civil Support Teams are playing an increasingly more important role to the Department of Homeland Security. How is what they learn at Fort Leonard Wood playing a part in better preparing these members to meet current and future challenges?**

As you know the Weapons of Mass Destruction - Civil Support Teams (CSTs) have a high concentration of chemical specialty positions. Here at the Chemical School we provide the Military Occupation Specialty (MOS) training for Soldiers as well as Air Force Specialty Code (AFSC) training for Airmen. This training gives these Soldiers and Airmen the skill sets they need to do their job. The Chemical School, along with the Maneuver Support Center and the National Guard Bureau, are developing numerous CST/ CBRN related courses. The Civil Support Skills Course (CSSC) addresses the specific and unique mission of the CST. This course is currently being refined to include the latest in chemical detection technology and procedures. CST members are more technically and tactically proficient at providing CBRN expertise to civil authorities after attending this course. We are also developing CST pre-command and operations courses to better prepare CST leaders to command and control their units.

### **Sir, I spent a day with Sgt. 1st Class Reinero Urbina, who was completing the Advanced Chemical Non-Commissioned Officer's Academy. His small unit commanders selected him to participate in our interview which appears later in this issue. Is he typical or atypical of today's Soldier and other branch service members who participate in the instruction here?**


Sgt. 1st Class Urbina is a great example of the high speed Noncommissioned Officers that are currently in the Chemical Corps. He represents what a leader is and should be. He has more education

and real world experience than NCOs in the past and is using his experience from OIF to improve his unit and the Soldiers he leads. Sgt. 1st Class Urbina is a true representative of a chemical Soldier and a Senior Noncommissioned Officer.

### **Are there any concluding thoughts you'd like to share about the direction of the Chemical School or Fort Leonard Wood?**

The Chemical Corps had its transformation approved by the Chief of Staff of the Army in Oct 03 and we are starting to reorganize our units to support the Army Transformation. We are relooking our core mission sets and using lessons learned from OIF/OEF to ensure we are postured with personnel and equipment to perform all the missions required of the Chemical Corps. We are working with various organizations to develop DOTMLPF solutions to CBRN homeland security issues by conducting analysis of requirements, material requirement documentation, additional training courses, and new doctrine to work this new mission area for the Chemical Corps. We have a challenging future ahead of us and I'm looking forward to working with the other Services to ensure we are providing Joint CBRN defense to the Joint Warfighter.

I am very proud of all those serving, especially those in the Chemical Corps. Their service to the nation is commendable and I salute them.

Our vision is for the Chemical Corps to be a superbly equipped and trained force that is a true combat multiplier for the combatant commander. The U.S. Army Chemical School is helping accomplish this mission by preparing our Army to fight and win unhindered by threatened or actual CBRN hazards. We are a professional corps of Soldiers that are imbued with the warrior ethos and are technically and tactically ready to face the challenges of the future. Together, we provide a synergistic effect that makes Chemical Corps Soldiers both vital and relevant for combatant commanders, the Joint warfighter and the defense of the homeland. 

*Jeff McKaughan from Military Medical/NBC Technology Magazine contributed to the interview.*



# Capturing a Day in the Life of an Advanced Non-Commissioned Officer Academy Soldier

By Julius L. Evans

Photographs by Steven Lusher



*Fort Leonard Wood photographer prepared the September graduating ANCOC class for their group photograph.*





*Once a Soldier makes it to this point in their training, he/she is a shoe in to graduate. The expressions in this photo show it.*





**Soldiers at the Advanced Non-Commissioned Officer's Academy start their day with physical training and then have a barrage of classroom assignments. They routinely go every place together as a class in order to build team spirit. Many of these Soldiers won't be in contact with one another after graduation.**

The Advanced Non-Commissioned Officer Course (ANCOC) for chemical Soldiers at Fort Leonard Wood, MO, is more than just a stepping-stone to the next higher paygrade for sergeants first class and staff sergeants who have been deemed promotable. Soldiers refine their leadership skills in a number of battle focused training evolutions throughout the six-week, two-day course and return to their unit (or proceed to a new one), as finely tuned, well-trained experts ready to lead a platoon or Brigade/Division Nuclear Biological Chemical Cell.

Sgt. 1st Class Reinerio Urbina is one of those experts. Assigned to Headquarters and Headquarters Company (HHC) 3/327 Infantry Battalion, Fort Campbell, KY, he was singled out by his ANCOC small group leaders as an individual who represents the total Soldier concept in the current class.

"We feel Sgt. 1st Class Urbina shows strong, consistent leadership qualities throughout everything that he participates in and we see that in everything he does," said Sgt. 1st Class Kimberly Pardue, speaking on behalf of Sgt. 1st Class Dwight Mitchell and Sgt. 1st Class Ward Christman, the cadre of instructors who lead Urbina's class. "Throughout the duration of the course, we



assess the students' leadership potential and evaluate their ability to apply lessons learned to effectively lead their classmates in a tactical environment. Urbina's attitude, demeanor and the level of his participation make him a standout."

That participation usually starts with physical training. Each morning, students at ANCOC are up at the break of day where they all join in a cadence-calling warm-up routine that includes stretching, muscular endurance training, and cardio respiratory. After physical fitness training is complete, students shower, change into their uniforms, eat breakfast and begin their course training for the day.

In the classroom environment, elements of leadership skills, responsibilities, NCO duties and how to conduct performance-oriented training are covered, teaching how to become competent and qualified platoon sergeants; evaluators; counselors and par-



From the time they arrive, they are in a constant state of learning. In order to enhance their learning experience, ANCOG participants are issued gear that is tracked and accounted for throughout the duration of their time at Fort Leonard Wood. The process is very organized.



ticipants in individual and collective training. ANCOG provides students an opportunity for education, to learn warfighting skills, and to gain experience that will be valuable in real-world situations.

Urbina experienced real-world situations while stationed in Mosul, Iraq during an 11-month tour of duty, where he served in the division chemical section. However, prior to deploying, his immediate mission at hand was teaching Soldiers at his home unit the proper procedures for using the equipment that could mean the difference between life and death.

“At Fort Campbell, I was responsible for reinforcing Common Task Training which included familiarity with first aid and proper donning and doffing of their chemical protective gear. I had to ensure the troops were well trained before they went to Iraq,” said the 33-year-old Brooklyn, NY native and father of two. “In Iraq, my unit had some of the newest equipment available.”

Just prior to going, Urbina’s unit was issued the Joint Service Lightweight Integrated Suit Technology (JSLIST) chemical biological protective gear. The JSLIST is the product of the four-Services’ effort to field a common chemical protective clothing ensemble including a lightweight CB protective garment, multi-purpose overboots and gloves. Each component is based on state-of-the-art materiel technologies that have undergone extensive user evaluation, field and laboratory testing. JSLIST Program objectives included reduced heat stress, compatibility with all interfacing equipment, longer wear, and washability. The JSLIST replaces the Battle Dress Overgarment (BDO).

While at ANCOG, Urbina’s entire class got a chance to build confidence in the JSLIST by wearing it in the Chemical Defense Training Facility (CDTF), a world-class facility that uses state-of-the-art technology to provide tough, realistic training while com-





plying with local, state and federal regulatory agencies. The CDTF permits military personnel, civilians and foreign Nuclear Biological and Chemical specialists to overcome any perceived fear of performing operations in a toxic chemical agent environment.

It features eight negative pressure-training bays, a toxic agent laboratory, a protective clothing and equipment section to clean service and certify protective equipment and a wastewater treatment facility. Special engineering controls and environmental monitoring equipment support the CDTF. These controls ensure toxic chemical agents remain at predetermined concentration levels in the training bays and that no atmospheric agent release can occur.


Unlike other US Army chemical activities where release of any toxic chemical agent is unacceptable, the CDTF is designed to release predetermined quantities of persistent (VX) and non-persistent (GB Sarin) nerve agents inside the training building. Once the nerve agents are dispersed and a chemically contaminated environment is established, students equipped with full protective gear detect, identify and decontaminate the chemical agents. The initial production and handling of the toxic chemical agents is left exclusively to CDTF staff personnel who make amounts small enough for training purposes only.

Once students leave the CDTF, it's back to the chemical school where the course focus is to provide advanced technical and tactical instruction in Nuclear and Chemical operations and Biological defense. Students learn logistics and maintenance management, combined arms operations, smoke and flame support and training management. They are also given guidance in contemporary NBC and training issues, combat survival skills and operational radiation

safety and tactics. The course is designed to involve students as leaders, by incorporating a student led atmosphere.

"By completing this course, the Army benefits in two ways. First, they get what is considered the total Soldier concept. Every person who successfully completes ANCOC is a better Soldier and that helps the Army community," Urbina said. "Secondly, it produces a well trained Soldier that can accomplish any mission set before him or her."

When asked about the quality of training at ANCOC, Urbina said, "I am a much better Soldier now that I've come here. I've been to Operation Iraqi Freedom so I can see that some of the input from the field is being incorporated in the course. Teaching Soldiers to be better at what they do is invaluable."

Brig. Gen. Stanley Lillie, Commandant of the Chemical School, echoed those thoughts. "Sgt. 1st Class Urbina represents what a leader is and what he should be. He has more education and real world experience than NCOs in the past and is using his experience from OIF to improve his unit and the Soldiers he leads. Sgt. 1st Class Urbina is a true representative of a chemical Soldier and a senior NCO." 





Left, Sgt. 1st Class Reinerio Urbina, 33, Brooklyn, NY, was unanimously chosen by his small group leaders as a stand out amongst his peers for his participation in classroom activities. Brig. Gen. Lillie said he represents what a leader is and what a leader should be.

Sgt. 1st Class Miguel Ingle, Instructor, Chemical ANCO, prepares students for their live toxic agent training at the Chemical Defense Training Facility. This one-day course allows students to perform operations in a toxic environment and build confidence in their equipment.





# Chemical Exercise Tests Skills

Story and photos  
by Spc. Tremeshia Ellis

The flashing lights of military police vehicles, fire trucks and ambulances dotted the landscape as Soldiers and emergency workers, wearing riot gear and chemical suits responded to terrorists with dangerous chemical agents.

This was the scene at Fort Leonard Wood's West gate Sept. 7. To the casual observer, the post may have appeared under attack.

But this incident was simulated and carefully planned by the installation's Command Surety office.

The West gate was closed several hours to serve as the backdrop for the installation's quarterly CAIRA exercise.

CAIRA is the Chemical Accident Incident Response and Assistance operation plan and has been a responsibility on Fort



Sgt. Derrick Smith, left, decontaminates a Soldier.

Leonard Wood since 1999.

Though make-believe, the exercise serves an important function in ensuring preparedness for potential real-life incidents.

The exercises are used to evaluate response personnel and activities in preparedness in the event of a chemical incident.

The key CAIRA players are the post's first responders. The fire depart-

ment, 3rd Chemical Brigade reconnaissance and decontamination teams, Law Enforcement Command and the General Leonard Wood Army community hospital emergency medical teams all play a critical role in chemical accident or incident response operations, according to Bill Walker, chemical surety specialist.

Observers from each element are on hand to time and evaluate the response teams. The responsible officer for the



Soldiers from the 3rd Chemical Brigade help Kenneth Gremp, center, prepare for the decontamination mission.



Spc. Dustin Flores, 252nd Military Police Detachment, is apprehended by a member of the SRT.





Right, firefighters Bryan West, left, and Pfc. Timothy Burrus, set up cones around the hot line in preparation for the mission.

exercise was Col. Don Bailey, Fort Leonard Wood's incident response force commander.

He shares responsibility for installation preparedness with the Garrison Commander, who controls most of the assets, the emergency operations center and the post's mobile command center.

"These are the two key communication sites during an emergency," Walker said. "Law Enforcement Command also has a mobile command post, and they co-locate with us," Walker added.

The Chemical Accident Incident Response Officer is Lt. Col. Phillip Trued. Trued controls the mobile command center and is the on site commander for any chemical incidents outside the Chemical Defense Training Facility. Annually, the Chemical Surety office exercises what is called a recapture and recovery plan, according to Walker.

During the Sept. 7 CAIRA exercise, critical chemical precursors were intercepted by hostile forces at Waynesville Regional Airport. CDTF workers and their LEC escorts were killed during the

incident. The hostile forces made their way to the west gate before their vehicle broke down. After a brief standoff, LEC's Special Reaction Team apprehended the perpetrators and regained control of the chemicals.

"There were many moving parts along the way," Walker said.

As the incident unfolded, the Fire department set up a hot line or decon-

company acted as the Special reaction team and road patrol." This was a big mission for us," Kerr said. "It was a big deal because we were tasked with escorting chemical weapon precursors from the CDTF to the ASP [ammunition supply point]," he said of the mission.

Though most of his Soldiers are experienced, most having been deployed previously, the commander said the exercise

## Fort Leonard Wood is fully prepared to respond in the unlikely event of a chemical incident.

tamination line and waited for the arrival of Soldiers from the 3rd Chemical Brigade. Once on the scene, the Soldiers stepped in and assumed the decontamination role. All of the participants who came in contact with the chemical agents went through the entire decontamination process including equipment and personal clothing drops, decontamination of undergarments, verification of decontamination and a hygienic shower.

Once the perpetrators and casualties were deemed clean, they were handed over to the hospital's EMTs who assumed responsibility for those injured and transported individuals to the hospital as required.


"I thought it went very well," said Capt. David Kerr, commander of 252nd Military Police Company.

Approximately 20 Soldiers from his

was a good training opportunity for the Soldiers.

"Though this exercise is meant to be an evaluation, I try to use it as a training event as well," Kerr said. "It's a valuable exercise," he said.

"It gives us a great opportunity to practice lessons learned and refine our tactics, techniques and procedures used when responding to incidents on the installation." According to Walker, CAIRA operations should give the area residents a sense of added security.

"Fort Leonard Wood is fully prepared to respond in the unlikely event of a chemical incident," Walker said. "We practice responses to several types of incidents on a quarterly basis to ensure continued readiness," he added. 



Sgt. Jammin Smith, provides security as, center, Law Enforcement Command's Special Reaction Team advances on the terrorists' vehicle.







# DECONTAMINATION



*By Julius L. Evans  
Photographs by Steven Lusher*

## New Soldiers Complete the Chemical Operations Specialist Course





**Students wait their turn to operate the equipment on which they have just completed class-room training.**



When Staff Sgt. Jorge J. Morel, one of the instructors for the Chemical Operations Specialist Course at Fort Leonard Wood, MO, arrives at work, he has a pretty good idea of what's in store. After students have completed their nine weeks of Basic Combat Training, they typically go on to 10 weeks of Advanced Individual Training (AIT), where not a whole lot changes from when they were in basic. Many portions of their day are still controlled by the drill sergeant, and it's no different when they begin learning their Military Occupational Specialty. They are called to formation, marched to class and once there, spend two days getting hands on training on various decontamination equipment, like the M-17 Light Decontamination System, M-12A1 Decontamination Apparatus, Pump Centrifugal (65 Gallons Per Minute), KARCHER Multi-purpose Decontamination System, and the FALCON (Fixed Site Decontamination Systems).

That's when Morel and the rest of the instructors of the Chemical Training Department (CTD) take over. The chemical operations specialist operates, performs operator maintenance or supervises the use of nuclear, biological and chemical detection and decontamination equipment, smoke generators, and assists in the establishment, administration, training and application of NBC defense measures.

"When the students first enter the classroom environment, you can see they are sometimes a little confused, a little scared and a little apprehensive because they have spent so much time with their drill sergeant," Morel said. "We like to let them come in, get

used to the environment and let them know they are here to learn. We rarely have to yell to get our point across. We only yell at them because the equipment is so loud and they have to wear hearing protection. So we're yelling over the noise of the equipment."

Throughout the course, students learn the functional skills of operating the KARCHER, a mobile decontamination system used to decontaminate personal equipment, exterior equipment, and large areas. The decontaminant employed is dispersed at high pressures. The Decojet-Trailer carries all necessary decontamination chemicals, as well as 1,000 liters of water, to allow for a limited degree of independent operation. The trailer is equipped with attached pumps, which extract water from sources (i.e., rivers, streams), up to a maximum suction height of five meters. The system also carries dry steam generators for further decontamination of contaminated materials.

Students are also given training on the FALCON. Pulled by a Ford F-350 truck, the FALCON is a compressed air system that can decontaminate one mile of road or a three- to four-story building by using a decontamination solution expended at high pressure. They are also taught how to operate the lightweight, M17A2 portable pump and water-heating unit for producing hot water and steam. The system incorporates a 1,580 - 3,000 gallon collapsible water tank, two wand assemblies and connecting hoses that extract water from rivers or streams as a source.

The M12A1 Diesel/Engine Driven Decontamination Equipment, a heavy equipment wash down system, is also in the curriculum. A contaminated unit may require washing from






**After learning the hazards, students and taught how to perform scheduled maintenance on the equipment and then given a chance to operate the units first hand. Below: Students work with the M17A2 under the watchful eye of their instructor, Staff Sgt. Jorge J. Morel.**

equipment that can produce 60 - 120 pounds per square inch of water. This requirement is met with the M12.

"The first thing we do is to explain the hazards associated with this equipment," Morel said. "We then go on to show them how to perform prescheduled maintenance, we give them hands on operational experience so they can learn how to operate the equipment and then give them an opportunity to run the equipment themselves."

By the time they leave the course and are back under the full time instruction of their drill sergeant, chemical operations specialists have had the lion's share of operational experience on some of the equipment they may see once they report to their unit.

For Staff Sgt. Morel and the CTD crew, it's all in a day's work. "We train about 60 students per class, and when they first arrive they have no operational knowledge of the decontamination equipment. After completing our course, and the additional 10 weeks of AIT, they are converted from Basic Trainee Soldiers to Chemical Dragon Soldiers. It's a good transition." 





## Chemical Biological Defense Acquisition Initiatives Forum

The Chemical Biological Defense Acquisition Initiatives Forum is designed to provide a symposium whereby the Joint Program Executive Officer-Chemical Biological Defense (JPEO-CBD) can discuss items of interest in the area of acquisition initiatives with an industry group representing the chemical biological defense industrial base on a regular basis.

The CBDAIF was chartered in November 1996 at the request of the commanding general of the Chemical and Biological Defense Command (forerunner of SBCCOM). His objective was to have a regular dialogue with representatives of the industrial base on issues such as acquisition reform, potential policy changes, problem areas, and means for achieving viable partnerships with industry. A subsequent U.S. Army reorganization, the CBDAIF is now co-chaired by the JPEO-CBD. The CBDAIF has industry members, each representing a specific segments of the industrial base. Membership is for two years on a rotating base. Each member represents not only his own company, but all those in that sector. In addition, there are permanent government members as well as support from National Defense Industrial Association (NDIA). The co-chairman is from industry and is appointed by the commander of RDECOM in conjunction with the Vice President, Operations, NDIA.

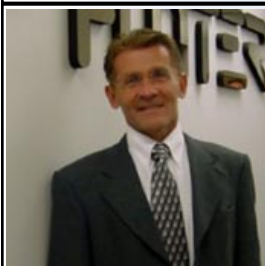
Meetings are held quarterly and are normally hosted by one of the members. Each meeting normally results in several action items wherein industry members are asked to do a survey or recommend a course of action at the next meeting. Some of the items that have been addressed include contract logistics support, acquisition policies impact on preservation of the industrial base, partnership agreements, and expanded use of commercial practices.



### **Richard R. Thomas - Co-Chairman**

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Mr. Richard R. Thomas has co-chaired the Chemical Biological Defense Acquisition Initiatives Forum since December 2003. Mr. Thomas has been active in design, development, testing and manufacturing of chemical and biological defense equipment for over 25 years. Mr. Thomas is currently Vice President of Sceptor Industries, Inc. where he is responsible for marketing, business development and sales for Government Programs. Before joining Sceptor, Mr. Thomas served in increasingly responsible management roles with the Bendix Corporation, Allied Signal, Environmental Technologies Group, Inc. and Smiths Detection.



### **Vince Nardy, CEO - Filter Technology**

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Hunter Manufacturing Company is a worldwide leader in the design and manufacture of NBC (nuclear, biological and chemical) air filters/air filtration systems for vehicular and shelter applications. Hunter supplies NBC (nuclear, biological and chemical) air filters and air filtration systems specifically designed for both Military and Homeland Security applications. In addition, Hunter manufactures a broad range of heating equipment for military and commercial applications. Under the brands Hunter and Camfire, Hunter Manufacturing designs and builds powered and non-powered heaters for tents, shelters and vehicles with capacities to meet any field operational requirement.



### **Michael T. Brown - Detection Systems**

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Michael T. Brown is the BAE SYSTEMS director of business development at the Integrated Defense Solutions business unit located in Austin, Texas. His portfolio includes both domestic and international military and commercial opportunities requiring comprehensive chemical, biological, radiological and nuclear defense and cross cutting enablers for force protection solutions. Mr. Brown has been a military analyst on MSNBC Television, providing coverage during Operation Iraqi Freedom in the search for Weapons of Mass Destruction. He is a combat veteran of Operation Desert Storm, who retired from active duty after serving for nearly 27 years in the Army Chemical Corps.



### **Bruce Dobbs - Professional Services**

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The Professional Services Sector of the chemical biological defense related industrial base represents the professional services that support engineering, operations, maintenance, modeling and simulation, and other non-commodity/equipment activities associated with chemical biological defense. The Professional Services Sector Representative represents the industrial base in discussion, review, and recommendations in the area of acquisition excellence. This ensures that the professional services sector supports the development and use of innovative procurement and acquisition procedures for supporting the chemical/biological defense program services in order to better meet the needs of the warfighter and stakeholders in the process.



### **NORMAN G. DELBRIDGE, JR., P.E. - Professional Services**

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The Sector Representative for the Decontamination Sector is a single Point of Contact between members of Industry associated with Decontamination Equipment and Decontaminant Substances and the JPEO-CBD of the Department of Defense. Establishment of the DECON sector representative provides a means by which the JPEO and the DECON industry maintain an orderly channel of communication to provide the JPEO with industry reaction to government policies and procedures, and provides visibility for the DECON industry to present suggestions, capabilities, and industry techniques and procedures which may contribute to a more effective accomplishment of the Chem/Bio mission.




**Jeff Bettinger - Remedial Construction - Non-Stockpile Sectors** [jeff.bettinger@shawgrp.com](mailto:jeff.bettinger@shawgrp.com)

The Remedial Construction Sector represents engineers and constructors with a major focus in the remediation of DoD (or former DoD) sites. While not normally associated with the classic CBN Defense arena, remediation activities have discovered Chemical Weapons Materiel (CWM) including weapons and Chemical Agent Identification Sets (CAIS). The Non-Stockpile Sector represents the interests of contractors in the Non-Stockpile program. Stakeholders in this sector include System Contractors, Program Integrators, System Developers, and Operators. Significant issues for both Sectors include indemnification and contract packaging.


**Charles G. Kelly - Small Business - Non-Stockpile** [chuck.kelly@iemc.com](mailto:chuck.kelly@iemc.com)

Mr. Kelly served for 29 years as an officer in the US Army, NBC Defense. As Director of Combat Developments for the Army Chemical School for four years, he was the "architect of the future" for the Army chemical defense program in the 1990's. He directed development of future NBC Defense force structure, materiel, training devices, and testing. Mr. Kelly developed and oversaw the publication of annual nuclear, biological, and chemical (NBC) defense modernization plans and "CHEMICAL CORPS 2000," a roadmap for NBC defense activities in the 21st Century.


**David Saunders - Protective Equipment** [dlsaunders01@aol.com](mailto:dlsaunders01@aol.com)

The Protective Equipment sector includes chemical warfare agent protective masks, clothing, gloves, and footwear. The sector includes numerous manufacturers of each type of equipment forming a solid industrial base to support contingency requirements. Many of the producers are engaged in continual developmental efforts to be able to offer the government the latest technical capability and improve their competitiveness in the marketplace.


**Gug Sresty - Operations & Maintenance** [gug.sresty@parsons.com](mailto:gug.sresty@parsons.com)

The Operations and Maintenance (O&M) sector represents industrial organizations supporting military installations and other Government or commercial facilities, and providing management, logistics, operations, maintenance, security and other logistics services. O&M sector members provide a broad range of installation and program support services to customers that include CBRN protection.


**Thomas M. Sack - Surety Operations** [tsack@mrresearch.org](mailto:tsack@mrresearch.org)

The Surety Operations Market Sector is comprised of commercial facilities conducting chemical and biological agent research. Working under stringent U.S. Army regulations requiring frequent compliance inspections for safety, security, personnel, and operational requirements, surety labs are authorized to conduct research using live chemical and/or biological agents. The contractor-owned, contractor-operated chemical and biological surety laboratories strive to support the U.S. government and domestic commercial sectors in the testing and evaluation of collectors, sensors, detectors, protective equipment, decontamination, and demilitarization technologies and operations.


**Sang Lee - Engineering & Manufacturing Development** [sesi001@aol.com](mailto:sesi001@aol.com)

The Small Business Manufacturing Sector is developing materials, methods, and products to enable our war fighters to minimize the consequences from Weapons of Mass Destruction. Areas of focus are wide and deep; sensors, collective and personal protection, decontamination, and battle management. In terms of sensors, to maximize warning and minimize false alarms. In terms of protection, to operate efficiently and effectively against the full range of threats. In terms of decontamination, to be minimally invasive to personnel and equipment while being maximally effective against the scope of threats. In terms of battle management, to integrate efficiently and effectively with current and emerging architectures to enable ease of use and provide the right information at the right time, on time.


**Terry Irgens - Pharmaceuticals** [IrgensT@dynport.com](mailto:IrgensT@dynport.com)

The pharmaceutical sector is developing vaccines and therapeutic biologics to protect our war fighters and civilians against exposure to potential bioterrorist threat agents. New and next-generation vaccines are being developed to protect against high-priority biological agents including smallpox, anthrax, tularemia, viral encephalitis, botulinum neurotoxin, ricin, plague, Q fever, and other various organisms that could potentially be used as bioweapons. Agents that pose the greatest risk can be transmitted from person to person, result in high mortality rates, and have the potential for major public health impact.



# Installation Protection Program Holds 2nd Annual Installation Representative's Conference

By Lt. Gregg Benton, USN

The 2nd Annual Installation Representative's Conference for the Installation Protection Program (IPP) was held on September 2, 2004. Joint Project Manager Guardian (JPMG), led by Col. Camille Nichols, sponsored the full day conference to introduce the IPP to the representatives from the 20 installations designated on the FY05 IPP list as well as senior leaders from Army, Navy, Air Force and Marine Corps. More than 100 attendees came to Arlington, VA from all over the United States, including Alaska and Hawaii.

The mission of JPMG is to provide designated DoD facilities and installations with an integrated CBRN protection and response capability in order to protect personnel, maintain critical military functions and restore essential operations as quickly as possible. JPMG is partnered with a Lead Systems Integrator (LSI), Science Applications International Corporation (SAIC), to achieve this objective at 227 installations over the next six years. As a tailored Family of Systems (FoS) is developed for each installation, JPMG will seek to leverage existing emergency response, physical security, communications and infrastructure assets; minimize the impact on installation operations and sustainment requirements; and enhance existing protection and response capabilities. The baseline IPP FoS components include CBRN detection, identification, warning, reporting, decision support, individual protection, collective protection, decontamination, medical countermeasures, medical diagnostics, and medical surveillance.

Col. Nichols kicked off the morning session with an overview of the program and then several detailed briefings were presented on each phase of the program. The initial phase of the program is the Site Survey. Each installation received a Pre-site Survey (PSS) package at the conference that they complete and return to JPMG a minimum of 30 days prior to a Site Survey. The data collected from the PSS provides critical design information, the most important of which, is the identification and service-level approval of that installations' critical missions. The PSS data helps focus the efforts of the survey team so that on-ground time and the impact to on-going base operations is minimized. The Site Survey itself consists of a one week visit to the installation in which data is gathered in the following areas: Critical Missions, Medical, Fire HAZMAT, Security, General Facilities / HVAC, Concept of Operations (CONOPS) / Emergency Management and Command, Control, Communications, Computers and Intelligence (C4I). This information is used in developing the system architecture and specifications and culminates in the design of a FoS protection package. During the second phase of the program, sensor placement and additional equipment needs are identified, CONOPS revisions are developed, and initial construction and equipment delivery schedules are created. Both the installation and the service representative will have opportunities to review and provide input to the design of the FoS protection package. Phase three is the fielding of the FoS and includes training, tabletop exercises and an installation-wide field exercise. The JPMG fielding and training approach is based on a "Total Package Fielding" concept in which all equipment, spares, and training are delivered simultaneously. This is followed by the exercises that validate the effectiveness of the FoS protection package in response to a CBRN event. In the final phase of the IPP, JPMG will provide one year of sustainment for the FoS as well as a Sustainment Transition plan with alternate approaches for long-term sustainment.

In the afternoon session, each service led discussions with their installations to discuss service specific information necessary for the implementation of the IPP. The goal of the session was to ensure that each installation understood how the IPP fit into the overall Service's objectives for responding to a CBRN event on their installation.

Currently, 35 of 227 Installations have been formally introduced to the Guardian IPP and JPMG looks forward to hosting another successful conference next year for the FY06 Installations.



Photos by Steven Lusher



# 'The Reason for Our Success is Our People.'

The following listed individuals were recognized in the previous quarter.

LTC Bret Slater  
MAJ Alfred Abramson  
MAJ Bruce Archambault  
MAJ Gordon Graham  
Dr. Michael Walter  
Mr. Charlie Lansing


MSG James Johnson  
Mrs. Holly Kincaid  
Mr. Christopher Rok  
Mr. Mathias Santiago  
Senior Chief Jeffery Smith



*Photo by Steven Lusher*

JPEO-CBD Support Analysts assist the Joint Project Managers for each of the seven commodity areas. Back row: Judy Russell (Decontamination), Jared Sass (Foreign Military Sales/Security Documentation), Peter Hernandez (Individual Protection), Richard Gurtowski (NBC Contamination Avoidance/Guardian). Front row: Brian Jones (Information Systems), Steven Siegel (Chemical Biological Medical Systems), Barry Coyle (NBC Contamination Avoidance/Guardian). Not pictured: Glenn Main (NBC Contamination Avoidance/Guardian) and John Bartos (Collective Protection).





Sgt. 1st Class  
Reinerio Urbina,  
ANCOC Graduate,  
Sept. 10, 2004